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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL011/3RD SCHAUMBURG, IL 60196				
EXAMINER				
CAL WAYNE HUU				
ART UNIT		PAPER NUMBER		
2617				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.Schaumburg@motorola.com
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Office Action Summary**Application No.**

10/788,630

Applicant(s)

WESTERN ET AL.

Examiner

WAYNE CAI

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5, 7-11, 16-23 and 25 is/are rejected.
7) ☒ Claim(s) 6, 12-15 and 24 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings were received on February 27, 2004. These drawings are acceptable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7-10, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (hereinafter "Hsu", US 2002/0141362).

Regarding claim 1, Hsu discloses a method of adapting coding schemes used on a downlink channel of a wireless packet data communication system to data resource limits of a mobile station coupled to a peripheral device, comprising:

transmitting a set of data on the downlink channel to the mobile station using a current combination of coding schemes that have a current data rate (paragraph 0011 teaches or suggests transmitting packets of data on forward link);

monitoring whether a data transfer rate of the peripheral device has been exceeded (paragraph 0011 teaches or suggests mobile station determines frame error rate and throughput); and

establishing an optimal combination of coding schemes to be the current combination of coding schemes when a search criterion that is based on whether the data transfer rate of the peripheral device has been exceeded is met (abstract, paragraph 0011 teaches or suggests select an optimal coding scheme for operation).

The Examiner further notes the mobile station is coupled to the peripheral device because the mobile station is served as the modem and allow the peripheral to transmit and/or receive data packets for the airlink. Since, Hsu expressly teaches or suggests the mobile station that is capable of transmitting/and receiving data packets via the cellular link. Hence, it should be apparent to one skilled in the art that Hsu also teaches or suggests the mobile station couple to the peripheral device.

The motivation/suggestion for doing so would have been to allow the user to transmit and receive information via the cellular sites.

Regarding claim 2, Hsu discloses all limitations recited within claim as described above. Hsu also discloses determining a new combination of coding schemes that have a new data rate different than the current data rate when the search criterion has not been met; setting the new combination of coding schemes to be the current combination of coding schemes; and repeating the transmitting, monitoring, determining, and setting until the search criterion has been met (paragraphs 0011-0014).

Regarding claims 3, 7, and 8, Hsu discloses all limitations recited within claim as described above, but does not expressly disclose wherein an initial value of the current combination of coding schemes consists of a highest coding scheme supported

by the mobile station, transmitted using a highest duty cycle, wherein the optimal combination of coding schemes includes coding schemes that vary from frame to frame in one of coding scheme level and duty cycle, and provide a common average data rate, and wherein the optimal combination of coding schemes is varied to allow frame sharing with other mobile stations. However, one skilled in the art would conceptualize to select any duty cycle, either highest or lowest cycle initially, and attempt to deliver a constant or average data rate to users. Hence, these claims features are not novel.

Regarding claims 4 and 5, Hsu discloses all limitations recited within claim as described above, but does not expressly disclose wherein the search criterion is that the data transfer rate of the peripheral device has not been exceeded, and the establishing comprises determining the new combination of coding schemes to have a new data rate that is less than the current data rate, wherein the establishing comprises determining the new combination of coding schemes to have a new data rate that is one half of the current data rate. However, it is obvious to one skilled in the art to adjust the data rate accordingly to optimize the throughput. Hence, this claimed feature is not novel.

Regarding claim 9, Hsu discloses all limitations recited within claims as described above. Hsu also discloses wherein the monitoring of whether a data transfer rate of the peripheral device has been exceeded comprises determining whether intervals of acknowledgements transmitted from the mobile station on an uplink channel in response to the set of data meet uniformity criteria (paragraph 0043).

Regarding claim 10, Hsu discloses all limitations recited within claims as described above. Hsu also discloses wherein the monitoring further comprises

determining that the downlink and uplink channels are sufficiently error free (paragraph 0011).

Regarding claim 16, wherein the wireless packet data communication system is one of a General Packet Radio Service, an Enhanced General Packet Radio Service, and a Universal Mobile Telecommunications System. The Examiner notes that this claim simply recites various well known technologies. Hence, it is obvious to one skilled in the art that one can easily utilize and incorporate one of these well known technologies in his/her invention.

Regarding claim 17, Hsu discloses all limitations recited within claim as described above. Hsu also discloses sending a data message to the mobile station using the optimal combination of coding schemes (paragraph 0011).

4. Claims 11, 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (hereinafter "Hsu", US 2002/0141362) in view of Lim et al. (hereinafter "Lim", US 2004/0196900).

Regarding claim 11, Hsu discloses all limitations recited within claims as described above, but does not expressly disclose determining a buffer depth of the mobile station when the search criterion has been met.

In a similar endeavor, Lim discloses an apparatus and method for communicating moving picture mail using a transcoding operation. Lim also discloses determining a buffer depth of the mobile station when the search criterion has been met (paragraphs 0059-0060).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine these references together.

The motivation/suggestion for doing so would have been to determine the mobile station memory capacity.

Regarding claim 18, Hsu and Lim disclose all limitations recited within claims as described above. Lim also discloses transmitting data of a long set of data to the mobile station using a combination of coding schemes that has a data rate exceeding a data rate of the optimal combination of coding schemes until the buffer depth of the mobile station is calculated to be filled, then using a combination of coding schemes having a data rate less than or equal to the data rate of the optimal combination of coding schemes for subsequent transmissions of data of the long set of data (paragraphs 0059-0060).

Regarding claim 22, Hsu and Lim disclose all limitations recited within claims as described above. Hsu also discloses wherein the function of monitoring of whether a data transfer rate of the peripheral device has been exceeded comprises a function of determining whether intervals of acknowledgements transmitted from the mobile station on an uplink channel in response to the set of data meet uniformity criteria (paragraph 0043).

Regarding claim 23, Hsu and Lim disclose all limitations recited within claims as described above. Hsu also discloses wherein the function of monitoring further comprises a function of determining that the downlink and uplink channels are sufficiently error free (paragraph 0011).

5. Claims 19-21, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim et al. (hereinafter "Lim", US 2004/0196900).

Regarding claim 19, Lim discloses a method of adapting a coding scheme used on a downlink channel of a wireless packet data communication system to data resource limits of a mobile station coupled to a peripheral device, comprising:

establishing an optimal combination of coding schemes that is different from a data transfer rate of the peripheral device (paragraphs 0059-0060); and

determining a buffer depth of the mobile station after the optimal combination of coding schemes has been established (paragraphs 0059-0060).

The Examiner notes that even though that Lim does not expressly disclose establishing a coding scheme that is "less than" a data transfer rate of the peripheral device. Lim, however, does expressly disclose establishing a coding scheme that is "different" a data transfer rate of the peripheral device based on the determination step. Hence, one skilled in the art could easily conceptualize that Lim discloses adjusting the coding scheme either higher or lower than the data transfer rate of the peripheral device, which also reads on claimed invention.

The motivation/suggestion for doing so would have been to optimize the throughput rate.

In light of the foregoing issues, the Examiner rejects **claims 21 and 25** at least for the same reasons set forth above.

Regarding claim 20, Lim discloses all limitations recited within claim as described above. Lim also discloses transmitting data of a long set of data to the

mobile station using a combination of coding schemes that has a data rate exceeding a data rate of the optimal combination of coding schemes until the buffer depth of the mobile station is calculated to be filled, then using a combination of coding schemes having a data rate less than or equal to the data rate of the optimal combination of coding schemes for subsequent transmissions of data of the long set of data (paragraphs 0059-0060).

Allowable Subject Matter

6. Claims 6, 12-15, 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WAYNE CAI whose telephone number is (571)272-7798. The examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wayne Cai/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617